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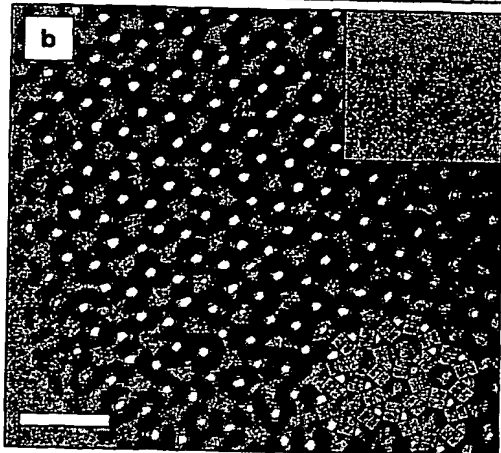
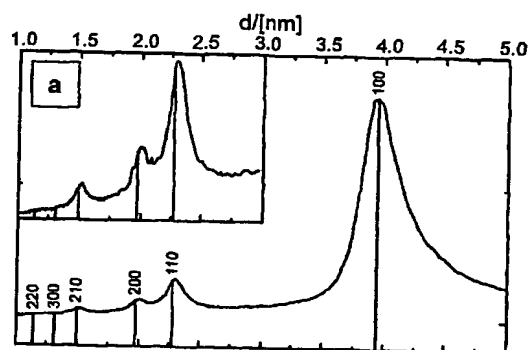
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[Continued on next page]

(54) Title: **CRYSTALLINE MESOPOROUS OXIDE BASED MATERIALS USEFUL FOR THE FIXATION AND CONTROLLED RELEASE OF DRUGS**



(57) Abstract: The invention describes a new class of crystalline silica material having two levels or porosity and structural order. At the first level, building units are nanoslabs of uniform size having zeolite framework. At the second structural level, nanoslabs are assembled, e.g. linked through their corners, edges or faces following patterns imposed by interaction with cationic surfactant or triblock copolymer molecules. After evacuation of these molecules, microporosity is obtained inside the nanoslabs, and a precise mesoporosity between the nanoslabs depending on the tiling pattern of the zeolite nanoslabs, as evidenced by X-ray diffraction. These materials are useful for the fixation of biologically active species, such as poorly soluble drugs.

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WO 2005/000740 A3



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